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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,524

04/01/2004

Hubert Schalk

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EXAMINER

DESAI, HEMANT

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/816,524	Applicant(s) SCHALK, HUBERT	
	Examiner Hemant M. Desai	Art Unit 3721	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,8 and 10-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5,8 and 10-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-2, 8, 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (1471755) in view of Turner (4811688).

Schmidt discloses a folding device comprising a folding drum (7, figs. 3-4) comprising two opposing side walls (7, fig. 4) and a carrier (undesignated, see figs. 3-4) connected to the folding drum at a location between the side walls, the carrier has a small material thickness in a longitudinal direction of the folding device and a large area extending approximately over the entire cross section of an interior of the folding drum in a transverse direction of the folding device (note cross-section extending diametrically in order to carry 5 shafts), a folding-blade shaft (35, figs. 2-4) having two ends, each of the two ends of the folding-blade shaft being rotatably mounted in a respective one of the sides walls in the folding drum, the folding-blade shaft having at least two folding-blade carriers (see fig. 4) for holding folding blades (15, figs. 2-4), a pair of bearings arranged in the side walls of the folding drum (see fig. 4), the ends of the folding-blade shaft (35) being mounted respectively in the side walls by the pair of bearings, at least one further bearing (see fig. 4) arranged in the carrier, wherein the folding-blade shaft is

further rotatably supported in the carrier by the at least one further bearing between the ends of the folding-blade shaft.

Schmidt, as mentioned above, discloses that the carrier has a small material thickness in a longitudinal direction of the folding device and two folding blades (15) spaced apart from one other (see fig. 4). Schmidt does not disclose expressly that the folding blades are spaced apart from one another by a distance smaller than 10 millimeters. At the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to space the folding blades apart by 10 millimeters to improve the fold quality or to accommodate the change in material characteristics or change in working conditions because since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Schmidt, as mentioned above, meets all the limitations except the bearings are self-aligning roller bearings. Turner teaches that it known to support shaft (roller 30, fig. 1) in self-aligning roller bearings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to support the folding blade shaft of Worthington et al. in the self-aligning roller bearings, as taught by Turner, since Turner states at col. 2, lines 48- 51 that such a modification would reduce friction to a minimum.

Regarding claim 2, Schmidt discloses that the at least one further bearing is arranged between adjacent ones of the at least two folding-blade carriers.

Regarding claims 8 and 16, Schmidt, as mentioned above, discloses that the one further bearing being supported on the carrier and the carrier is connected to the drum (see fig. 1). Schmidt does not disclose expressly that the carrier is connected to the drum by threaded connection. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide threaded connection since it was known in the art that provide threaded connection to connect two parts.

Schmidt, as mentioned above, discloses all the claimed limitations of claims 14-15 and 17.

3. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (1471755) and Turner (4811688) as applied to claim 1 above, and further in view of Ryser (6527029).

The folding device of Schmidt as modified by Turner, meets all the limitations of claim 5, except for central lubricating system to supply lubricating medium to the bearings. However Ryser teaches to provide the central lubrication system (32, fig. 5) to lubricate the bearings (31, fig. 5) of the driving shaft (see col. 3, lines 46- 60). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to having provided the central lubrication system as taught by Ryser in the modified folding device of Schmidt to lubricate the bearings of folding blade shaft.

4. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (1471755) and Turner (4811688) as applied to claim 1 above, and further in view of Petrzalka et al. (5118214).

The modified folding machine of Schmidt, as mentioned above, disclose all the claimed limitations of claims 10-13, except for the drive pinion (34, fig. 4) is connected to the folding shaft with form-fitting connection. However, Petrzalka et al. Teaches a form-fitting connection by serrated teething (see figs. 1-2) to provide simple design which ensures problem-free transmission of the necessary torque values (see col. 2, lines 30-33) between connecting piece (1, fig. 1) and shaft (7, fig. 1). Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to connect the drive pinion of Worthington et al. to the folding shaft with form-fitting connection as taught by Petrzalka et al. to provide simple design which ensures problem-free transmission of the necessary torque values between drive pinion and the folding blade shaft.

5. Claims 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt (1471755) in view of Turner (4811688).

Response to Arguments

6. Applicant's arguments filed 6/12/2007 have been fully considered but they are not persuasive. Applicant's argument regarding "folding blades are spaced apart from one another in a region proximate said carrier by a distance smaller than 10 millimeters", note that Schmidt discloses, as mentioned above, the carrier (undesignated in fig. 4) has a small material thickness in a longitudinal direction of the folding device and a large area extending approximately over the entire cross section of an interior of the folding drum in a transverse direction of the folding device (note cross-section extending diametrically in order to carry 5 shafts), a folding-blade shaft (35, figs.

2-4) having two ends, each of the two ends of the folding-blade shaft being rotatably mounted in a respective one of the side walls in the folding drum, the folding-blade shaft having at least two folding-blade carriers (see fig. 4) for holding folding blades (15, figs. 2-4), a pair of bearings arranged in the side walls of the folding drum (see fig. 4), the ends of the folding-blade shaft (35) being mounted respectively in the side walls by the pair of bearings, at least one further bearing (see fig. 4) arranged in the carrier, wherein the folding-blade shaft is further rotatably supported in the carrier by the at least one further bearing between the ends of the folding-blade shaft. Schmidt does not disclose expressly that the folding blades are spaced apart from one another by a distance smaller than 10 millimeters. Since Schmidt disclose the small material thickness of carrier it is possible to arrange the folding blades close to each other (see paragraph 0012 of the application). Schmidt does not disclose expressly that the folding blades are spaced apart from one another by a distance smaller than 10 millimeters. But it would have been an obvious to a person of ordinary skill in the art to space the folding blades apart by 10 millimeters, because since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemant M. Desai whose telephone number is (571) 272-4458. The examiner can normally be reached on 6:30 AM-5:00 PM, Mon-Thurs..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rinaldi I. Rada can be reached on (571) 272-4467. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Hemant M. Desai
Hemant M Desai
Primary Examiner
Art Unit 3721

/hd/